

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 227-03895	FOR FURTHER ACTION <small>see Form PCT/ISA/220 as well as, where applicable, item 5 below.</small>	
International application No. PCT/IL2004/000034	International filing date (day/month/year) 13/01/2004	(Earliest) Priority Date (day/month/year) 13/01/2003
Applicant GLUCON INC.		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 4 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (See Box II).

3. ☐ **Unity of invention is lacking** (see Box III).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regards to the **drawings**,

a. the figure of the **drawings** to be published with the abstract is Figure No. 1

☒ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

b. ☐ none of the figures is to be published with the abstract.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/IL2004/000034

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 A61B5/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 A61B G01N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 91/18548 A (CLIFT VAUGHAN) 12 December 1991 (1991-12-12)	1, 2, 53, 57-60
Y	page 4, column 3 - page 6, column 11; figures 8-16	3, 61
Y	page 11, column 16 - page 15, column 2 ----- WO 01/66005 A (DISETRONIC LICENSING AG ; REIHL BRUNO (CH); HAUETER ULRICH (CH)) 13 September 2001 (2001-09-13)	3, 61
X	page 10 - page 13; figures 3-5 ----- US 6 049 728 A (CHOU MAU-SONG) 11 April 2000 (2000-04-11)	1, 2, 53, 57-60
	column 4, line 19 - column 9, line 40; claim 16 ----- -/-	

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- *G* document member of the same patent family

Date of the actual completion of the international search

5 May 2004

Date of mailing of the international search report

08/06/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Birkenmaier, T

INTERNATIONAL SEARCH REPORT

International Application No
PCT/IL2004/000034

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 1 048 265 A (LILIENFELD TOAL HERMANN PROF D) 2 November 2000 (2000-11-02) the whole document -----	1-61
A	EP 0 829 224 A (COLUMBUS SCHLEIF UND ZERSPANTE) 18 March 1998 (1998-03-18) the whole document -----	3,60
A	US 2002/072657 A1 (BOUSQUET GERALD G ET AL) 13 June 2002 (2002-06-13) the whole document -----	1-61

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/IL2004/000034

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 9118548	A	12-12-1991	AT 111706 T AU 7967591 A DE 69104203 D1 DE 69104203 T2 WO 9118548 A1 EP 0536187 A1 JP 3212996 B2 JP 5507866 T	15-10-1994 31-12-1991 27-10-1994 19-01-1995 12-12-1991 14-04-1993 25-09-2001 11-11-1993
WO 0166005	A	13-09-2001	DE 10011284 A1 AU 3355601 A WO 0166005 A1 US 2003050542 A1	20-09-2001 17-09-2001 13-09-2001 13-03-2003
US 6049728	A	11-04-2000	US 5941821 A EP 0919180 A1 JP 3210632 B2 JP 11235331 A TW 408219 B	24-08-1999 02-06-1999 17-09-2001 31-08-1999 11-10-2000
EP 1048265	A	02-11-2000	EP 1048265 A1 JP 2001025465 A US 6484044 B1	02-11-2000 30-01-2001 19-11-2002
EP 0829224	A	18-03-1998	DE 19632864 A1 EP 0829224 A2	19-02-1998 18-03-1998
US 2002072657	A1	13-06-2002	NONE	

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

To:

see form PCT/ISA/220

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY
(PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/IL2004/000034

International filing date (day/month/year)
13.01.2004

Priority date (day/month/year)
13.01.2003

International Patent Classification (IPC) or both national classification and IPC
A61B5/00

Applicant
GLUCON INC.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



European Patent Office
D-80298 Munich
Tel. +49 89 2399 - 0 Tx: 523656 epmu d
Fax: +49 89 2399 - 4465

Authorized Officer

Birkenmaier, T
Telephone No. +49 89 2399-7784



**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/IL2004/000034

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material:
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing:
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/IL2004/000034

Box No. II Priority

1. ☒ The following document has not been furnished:

☒ copy of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(a)).

☐ translation of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. Additional observations, if necessary:

Box No. V Reasoned statement under Rule 43*bis*.1(a)(I) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	3-52, 54-56, 61
	No: Claims	1, 2, 53, 57-60
Inventive step (IS)	Yes: Claims	4-52, 54-56
	No: Claims	3, 61
Industrial applicability (IA)	Yes: Claims	1-61
	No: Claims	.

2. Citations and explanations

see separate sheet

Re Item V

Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1 Reference is made to the following documents:

D1: WO 91/18548 A (CLIFT VAUGHAN) 12 December 1991 (1991-12-12)
D2: WO 01/66005 A (DISETRONIC LICENSING AG ;REIHL BRUNO (CH);
HAUETER ULRICH (CH)) 13 September 2001 (2001-09-13)

2 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 1 and 59 is not new in the sense of Article 33(2) PCT.

2.1 Document D1 discloses (the references in parentheses applying to this document):

A method of assaying an analyte in a body part comprising:
illuminating the body part with at least one pulse of light at each of first and second wavelengths (p. 4, lines 14-16) that stimulates photoacoustic waves (p. 7, lines 25-27) in first, target, region and a second, reference, region of the body part (p. 7, lines 20-23; "...pair of chambers having an open end placed against the skin.."), wherein the reference region interfaces with the target region (Fig. 9; transducer 14 is between the chambers 15 and 15a and therefore the regions interface) and has at least one known optoacoustic property (p. 4, lines 8 - p. 5. line 3; the experimentally derived constants are based on known optoacoustic properties of the "interfering components" (water etc.), which properties are well known in the art) and wherein light at the first wavelength is absorbed and/ or scattered by the analyte (p. 4, lines 8-20);
sensing pressure in the photoacoustic waves from the target and reference regions stimulated by the light at the first and second wavelengths (p. 7, lines 20-27); and using the sensed pressure and the at least one known optoacoustic property to assay the analyte in the target region (p. 6, lines 12-20 and p. 4, lines

8-28; "...the result of the measuring is corrected by taking into account the absorption caused by the interfering components..." (water, protein and fat etc.), which properties are well known in the art).

The subject-matter of **claim 1** is therefore **not novel (Article 33(2) PCT)**.

- 3 **Claim 59** has been drafted as a further independent claim, this appears to define effectively the same subject-matter as claim 1 and to differ from this claim only with regard to the definition of the subject-matter for which protection is sought in respect of the terminology used for the features of that subject-matter. The same reasoning applies, mutatis mutandis, to the subject-matter of claim 59 as stated above in 2.1, which therefore is also considered **not novel (Article 33(2) PCT)**.
- 4 Dependent **claims 2 and 60**, which define the same subject-matter, are also anticipated by D1 and therefore **not novel (Article 33(2) PCT)** (see Fig. 8 and p.11, lines 16-17 "skin").
 - 4.1 The subject-matter of dependent **claims 3 and 61**, which define the same subject-matter, does not involve an inventive step in the sense of Article 33(3) PCT, because D2, which discloses a similar method for assaying substances in body fluid, discloses the use of an artificial implant located in the body (p. 10, line 23-25 "Reflektor") for the same result to be achieved. It would be obvious to the person skilled in the art to apply this method step to the method according to D1.
 - 4.2 Dependent **claims 53, 57, 58** do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step, see the corresponding passages cited in the search report.
- 5 The combination of the features of dependent **claims 4-52, 54-56** is neither known from, nor rendered obvious by, the available prior art.